<u>What is claimed is</u>:

1.   A method for processing a source entity with a transformation entity to derive a result entity, comprising:

executing an action set forth in a particular portion of said transformation entity, a

5   particular portion of said source entity being a subject of said action;

generating a particular portion of said result entity as a consequence of executing said action; and

associating a set of history information with said particular portion of said result entity, said history information comprising a reference to said particular portion of said

10   transformation entity and a reference to said particular portion of said source entity to indicate that said particular portions of said transformation entity and said source entity gave rise to said particular portion of said result entity.

2.   The method of claim 1, wherein said result entity comprises a result tree

15   representation, and wherein said particular portion of said result entity comprises a particular node in said result tree representation.

3.   The method of claim 2, wherein associating said set of history information with said particular portion of said result entity comprises:

20   storing said history information in said particular node of said result tree representation.

4.   The method of claim 2, further comprising:

displaying said result tree representation to a user.

5.   The method of claim 2, further comprising:

applying an output method to said result tree representation to derive a result

document, said result document comprising a particular portion which corresponds to said

particular node of said result tree representation; and

displaying said result document to a user.

6.   The method of claim 2, further comprising:

receiving an indication that said particular node in said result tree representation

has been selected;

accessing said history information in response to receiving said indication;

obtaining from said history information said reference to said particular portion of

said transformation entity and said reference to said particular portion of said source

entity; and

providing an indication that said particular portion of said transformation entity

and said particular portion of said source entity gave rise to said particular node in said

result tree representation.

7.   The method of claim 6, wherein providing said indication comprises:

displaying said particular portion of said transformation entity and said particular

portion of said source entity.

8.   The method of claim 6, wherein providing said indication comprises:

displaying said transformation entity and said source entity;

displaying said particular portion of said transformation entity in a different

manner than other portions of said transformation entity; and

5   displaying said particular portion of said source entity in a different manner than

other portions of said source entity.

9.   The method of claim 1, wherein said source entity comprises a source tree

representation, wherein said transformation entity comprises a transformation tree

10   representation, wherein said reference to said particular portion of said source entity

comprises a reference to a particular node in said source tree representation, and wherein

said reference to said particular portion of said transformation entity comprises a

reference to a particular node in said transformation tree representation.

15   10.   The method of claim 9, further comprising:

receiving an indication that said particular portion of said result entity has been

selected;

accessing said history information in response to receiving said indication;

obtaining from said history information said reference to said particular node of

20   said transformation tree representation and said reference to said particular node of said

source tree representation; and

providing an indication that said particular node of said transformation tree representation and said particular node of said source tree representation gave rise to said particular portion of said result entity.

5   11.   The method of claim 10, wherein providing said indication comprises:

displaying said particular node of said transformation tree representation and said particular node of said source tree representation.

12.   The method of claim 10, wherein providing said indication comprises:

10   displaying said transformation tree representation and said source tree representation;

displaying said particular node of said transformation tree representation in a different manner than other node of said transformation tree representation; and

displaying said particular node of said source tree representation in a different

15   manner than other nodes of said source tree representation.

13.   The method of claim 10, wherein said source entity further comprises a source document, wherein said transformation entity further comprises a transformation document, wherein said source document comprises a particular portion which

20   corresponds to said particular node in said source tree representation, wherein said transformation document comprises a particular portion which corresponds to said particular node in said transformation tree representation, and wherein providing said indication comprises:

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displaying said particular portion of said transformation document and said
particular portion of said source document.

14.   The method of claim 10, wherein said source entity further comprises a
source document, wherein said transformation entity further comprises a transformation
document, wherein said source document comprises a particular portion which
corresponds to said particular node in said source tree representation, wherein said
transformation document comprises a particular portion which corresponds to said
particular node in said transformation tree representation, and wherein providing said
indication comprises:

displaying said transformation document and said source document;

displaying said particular portion of said transformation document in a different
manner than other portions of said transformation document; and

displaying said particular portion of said source document in a different manner
than other portions of said source document.

15.   The method of claim 1, wherein said source entity comprises an XML
(eXtensible markup language) document, and said transformation entity comprises a
stylesheet.

16.   A method for processing an entity that defines a computer process,
comprising:

executing a particular action set forth in a particular portion of said entity;

generating a result as a consequence of executing said particular action; and

associating a set of history information with said result, said history information

indicating that said particular portion of said entity gave rise to said result.

5   17.   The method of claim 16, wherein said history information comprises a

reference to said particular portion of said entity.

18.   The method of claim 16, wherein said entity comprises a transformation

document.

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19.   The method of claim 16, further comprising:

receiving an indication that said result has been selected;

accessing said history information in response to receiving said indication;

determining from said history information that said particular portion of said

15   entity gave rise to said result; and

providing an indication that said particular portion of said entity gave rise to said

result.

20.   The method of claim 16, further comprising:

20   executing a second particular action set forth in a second particular portion of said

entity;

generating a second result as a consequence of executing said second particular

action; and

associating a second set of history information with said second result, said

second set of history information indicating that said second particular portion of said

entity gave rise to said second result.

5   21.   An apparatus for processing a source entity with a transformation entity to

derive a result entity, comprising:

a mechanism for executing an action set forth in a particular portion of said

transformation entity, a particular portion of said source entity being a subject of said

action;

10   a mechanism for generating a particular portion of said result entity as a

consequence of executing said action; and

a mechanism for associating a set of history information with said particular

portion of said result entity, said history information comprising a reference to said

particular portion of said transformation entity and a reference to said particular portion

15   of said source entity to indicate that said particular portions of said transformation entity

and said source entity gave rise to said particular portion of said result entity.

22.   The apparatus of claim 21, wherein said result entity comprises a result

tree representation, and wherein said particular portion of said result entity comprises a

20   particular node in said result tree representation.

23.   The apparatus of claim 22, wherein the mechanism for associating said set

of history information with said particular portion of said result entity comprises:

a mechanism for storing said history information in said particular node of said result tree representation.

24.   The apparatus of claim 22, further comprising:

5   a mechanism for displaying said result tree representation to a user.

25.   The apparatus of claim 22, further comprising:

a mechanism for applying an output method to said result tree representation to derive a result document, said result document comprising a particular portion which

10   corresponds to said particular node of said result tree representation; and

a mechanism for displaying said result document to a user.

26.   The apparatus of claim 22, further comprising:

a mechanism for receiving an indication that said particular node in said result

15   tree representation has been selected;

a mechanism for accessing said history information in response to receiving said indication;

a mechanism for obtaining from said history information said reference to said particular portion of said transformation entity and said reference to said particular

20   portion of said source entity; and

a mechanism for providing an indication that said particular portion of said transformation entity and said particular portion of said source entity gave rise to said particular node in said result tree representation.

27.   The apparatus of claim 26, wherein the mechanism for providing said

indication comprises:

a mechanism for displaying said particular portion of said transformation entity

5   and said particular portion of said source entity.

28.   The apparatus of claim 26, wherein the mechanism for providing said

indication comprises:

a mechanism for displaying said transformation entity and said source entity;

10   a mechanism for displaying said particular portion of said transformation entity in

a different manner than other portions of said transformation entity; and

a mechanism for displaying said particular portion of said source entity in a

different manner than other portions of said source entity.

15   29.   The apparatus of claim 21, wherein said source entity comprises a source

tree representation, wherein said transformation entity comprises a transformation tree

representation, wherein said reference to said particular portion of said source entity

comprises a reference to a particular node in said source tree representation, and wherein

said reference to said particular portion of said transformation entity comprises a

20   reference to a particular node in said transformation tree representation.

30.   The apparatus of claim 29, further comprising:

a mechanism for receiving an indication that said particular portion of said result entity has been selected;

a mechanism for accessing said history information in response to receiving said indication;

5   a mechanism for obtaining from said history information said reference to said particular node of said transformation tree representation and said reference to said particular node of said source tree representation; and

a mechanism for providing an indication that said particular node of said transformation tree representation and said particular node of said source tree

10   representation gave rise to said particular portion of said result entity.

31.   The apparatus of claim 30, wherein the mechanism for providing said indication comprises:

a mechanism for displaying said particular node of said transformation tree

15   representation and said particular node of said source tree representation.

32.   The apparatus of claim 30, wherein the mechanism for providing said indication comprises:

a mechanism for displaying said transformation tree representation and said

20   source tree representation;

a mechanism for displaying said particular node of said transformation tree representation in a different manner than other node of said transformation tree representation; and

a mechanism for displaying said particular node of said source tree representation in a different manner than other nodes of said source tree representation.

33. The apparatus of claim 30, wherein said source entity further comprises a source document, wherein said transformation entity further comprises a transformation document, wherein said source document comprises a particular portion which corresponds to said particular node in said source tree representation, wherein said transformation document comprises a particular portion which corresponds to said particular node in said transformation tree representation, and wherein the mechanism for providing said indication comprises:

a mechanism for displaying said particular portion of said transformation document and said particular portion of said source document.

34. The apparatus of claim 30, wherein said source entity further comprises a source document, wherein said transformation entity further comprises a transformation document, wherein said source document comprises a particular portion which corresponds to said particular node in said source tree representation, wherein said transformation document comprises a particular portion which corresponds to said particular node in said transformation tree representation, and wherein the mechanism for providing said indication comprises:

a mechanism for displaying said transformation document and said source document;

a mechanism for displaying said particular portion of said transformation

document in a different manner than other portions of said transformation document; and

a mechanism for displaying said particular portion of said source document in a

different manner than other portions of said source document.

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35.   The apparatus of claim 21, wherein said source entity comprises an XML

(eXtensible markup language) document, and said transformation entity comprises a

stylesheet.

10   36.   An apparatus for processing an entity that defines a computer process,

comprising:

a mechanism for executing a particular action set forth in a particular portion of

said entity;

a mechanism for generating a result as a consequence of executing said particular

15   action; and

a mechanism for associating a set of history information with said result, said

history information indicating that said particular portion of said entity gave rise to said

result.

20   37.   The apparatus of claim 36, wherein said history information comprises a

reference to said particular portion of said entity.

38.   The apparatus of claim 36, wherein said entity comprises a transformation document.

39.   The apparatus of claim 36, further comprising:

a mechanism for receiving an indication that said result has been selected;

a mechanism for accessing said history information in response to receiving said indication;

a mechanism for determining from said history information that said particular portion of said entity gave rise to said result; and

a mechanism for providing an indication that said particular portion of said entity gave rise to said result.

40.   The apparatus of claim 36, further comprising:

a mechanism for executing a second particular action set forth in a second particular portion of said entity;

a mechanism for generating a second result as a consequence of executing said second particular action; and

a mechanism for associating a second set of history information with said second result, said second set of history information indicating that said second particular portion of said entity gave rise to said second result.

41.   A computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more processors to process a source

entity with a transformation entity to derive a result entity, said computer readable

medium comprising:

    instructions for causing one or more processors to execute an action set forth in a

particular portion of said transformation entity, a particular portion of said source entity

5   being a subject of said action;

    instructions for causing one or more processors to generate a particular portion of

said result entity as a consequence of executing said action; and

    instructions for causing one or more processors to associate a set of history

information with said particular portion of said result entity, said history information

10   comprising a reference to said particular portion of said transformation entity and a

reference to said particular portion of said source entity to indicate that said particular

portions of said transformation entity and said source entity gave rise to said particular

portion of said result entity.

15   42.   The computer readable medium of claim 41, wherein said result entity

comprises a result tree representation, and wherein said particular portion of said result

entity comprises a particular node in said result tree representation.

    43.   The computer readable medium of claim 42, wherein the instructions for

20   causing one or more processors to associate said set of history information with said

particular portion of said result entity comprises:

    instructions for causing one or more processors to store said history information in

said particular node of said result tree representation.

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44.   The computer readable medium of claim 42, further comprising:

instructions for causing one or more processors to display said result tree

representation to a user.

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45.   The computer readable medium of claim 42, further comprising:

instructions for causing one or more processors to apply an output method to said

result tree representation to derive a result document, said result document comprising a

particular portion which corresponds to said particular node of said result tree

10   representation; and

instructions for causing one or more processors to display said result document to

a user.

46.   The computer readable medium of claim 42, further comprising:

15   instructions for causing one or more processors to receive an indication that said

particular node in said result tree representation has been selected;

instructions for causing one or more processors to access said history information

in response to receiving said indication;

instructions for causing one or more processors to obtain from said history

20   information said reference to said particular portion of said transformation entity and said

reference to said particular portion of said source entity; and

instructions for causing one or more processors to provide an indication that said particular portion of said transformation entity and said particular portion of said source entity gave rise to said particular node in said result tree representation.

5   47.   The computer readable medium of claim 46, wherein the instructions for causing one or more processors to provide said indication comprises:

instructions for causing one or more processors to display said particular portion of said transformation entity and said particular portion of said source entity.

10   48.   The computer readable medium of claim 46, wherein the instructions for causing one or more processors to provide said indication comprises:

instructions for causing one or more processors to display said transformation entity and said source entity;

instructions for causing one or more processors to display said particular portion

15   of said transformation entity in a different manner than other portions of said transformation entity; and

instructions for causing one or more processors to display said particular portion of said source entity in a different manner than other portions of said source entity.

20   49.   The computer readable medium of claim 41, wherein said source entity comprises a source tree representation, wherein said transformation entity comprises a transformation tree representation, wherein said reference to said particular portion of said source entity comprises a reference to a particular node in said source tree

representation, and wherein said reference to said particular portion of said

transformation entity comprises a reference to a particular node in said transformation

tree representation.

5   50.   The computer readable medium of claim 49, further comprising:

instructions for causing one or more processors to receive an indication that said

particular portion of said result entity has been selected;

instructions for causing one or more processors to access said history information

in response to receiving said indication;

10   instructions for causing one or more processors to obtain from said history

information said reference to said particular node of said transformation tree

representation and said reference to said particular node of said source tree representation;

and

instructions for causing one or more processors to provide an indication that said

15   particular node of said transformation tree representation and said particular node of said

source tree representation gave rise to said particular portion of said result entity.

51.   The computer readable medium of claim 50, wherein the instructions for

causing one or more processors to provide said indication comprises:

20   instructions for causing one or more processors to display said particular node of

said transformation tree representation and said particular node of said source tree

representation.

52.   The computer readable medium of claim 50, wherein the instructions for causing one or more processors to provide said indication comprises:

instructions for causing one or more processors to display said transformation tree representation and said source tree representation;

5   instructions for causing one or more processors to display said particular node of said transformation tree representation in a different manner than other node of said transformation tree representation; and

instructions for causing one or more processors to display said particular node of said source tree representation in a different manner than other nodes of said source tree

10   representation.

53.   The computer readable medium of claim 50, wherein said source entity further comprises a source document, wherein said transformation entity further comprises a transformation document, wherein said source document comprises a

15   particular portion which corresponds to said particular node in said source tree representation, wherein said transformation document comprises a particular portion which corresponds to said particular node in said transformation tree representation, and wherein the instructions for causing one or more processors to provide said indication comprises:

20   instructions for causing one or more processors to display said particular portion of said transformation document and said particular portion of said source document.

54.   The computer readable medium of claim 50, wherein said source entity further comprises a source document, wherein said transformation entity further comprises a transformation document, wherein said source document comprises a particular portion which corresponds to said particular node in said source tree

5   representation, wherein said transformation document comprises a particular portion which corresponds to said particular node in said transformation tree representation, and wherein the instructions for causing one or more processors to provide said indication comprises:

instructions for causing one or more processors to display said transformation

10   document and said source document;

instructions for causing one or more processors to display said particular portion of said transformation document in a different manner than other portions of said transformation document; and

instructions for causing one or more processors to display said particular portion

15   of said source document in a different manner than other portions of said source document.

55.   The computer readable medium of claim 41, wherein said source entity comprises an XML (eXtensible markup language) document, and said transformation

20   entity comprises a stylesheet.

56.   A computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more processors to process an entity that defines a computer process, said computer readable medium comprising:

instructions for causing one or more processors to execute a particular action set

5   forth in a particular portion of said entity;

instructions for causing one or more processors to generate a result as a consequence of executing said particular action; and

instructions for causing one or more processors to associate a set of history information with said result, said history information indicating that said particular

10   portion of said entity gave rise to said result.

57.   The computer readable medium of claim 56, wherein said history information comprises a reference to said particular portion of said entity.

15   58.   The computer readable medium of claim 56, wherein said entity comprises a transformation document.

59.   The computer readable medium of claim 56, further comprising:

instructions for causing one or more processors to receive an indication that said

20   result has been selected;

instructions for causing one or more processors to access said history information in response to receiving said indication;

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instructions for causing one or more processors to determine from said history information that said particular portion of said entity gave rise to said result; and

instructions for causing one or more processors to provide an indication that said particular portion of said entity gave rise to said result.

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60.   The computer readable medium of claim 56, further comprising:

instructions for causing one or more processors to execute a second particular action set forth in a second particular portion of said entity;

instructions for causing one or more processors to generate a second result as a

10   consequence of executing said second particular action; and

instructions for causing one or more processors to associate a second set of history information with said second result, said second set of history information indicating that said second particular portion of said entity gave rise to said second result.